Amended Patent Claims (Art. 19 PCT)

1. A method for producing a blank for a component of laser active quartz glass, comprising the following steps:
   a) providing a dispersion with a solids content of at least 40% by wt. which contains SiO_2 nanopowder and dopants, including a cation of the rare earth metals or of the transition metals in a liquid,
   b) granulation by moving the dispersion with withdrawal of moisture until the formation of a doped SiO_2 granulate of spherical porous granulate grains having a moisture content of less than 35% by wt. and a density of at least 0.95 g/cm^3,
   c) drying and purifying the SiO_2 granulate by heating to a temperature of at least 1000°C with formation of doped porous SiO_2 granules having an OH content of less than 10 ppm, and
   d) sintering or melting the doped SiO_2 granules in a reducing atmosphere withformation of the blank of doped quartz glass, including a gas pressure sintering, which comprises the following steps:
      aa) heating the SiO_2 granules to a melting temperature of at least 1600°C while applying and maintaining a negative pressure;
      bb) holding at the melting temperature at an overpressure ranging from 5 bar to 15 bar for a melting period of at least 30 min with formation of the quartz glass blank;
      cc) cooling the quartz glass blank while maintaining an overpressure.

2. The method according to claim 1, characterized in that an initial solids content of at least 50% by wt. is set in the dispersion.

3. The method according to any one of the preceding claims, characterized in that the SiO_2 granulate obtained according to step b) has a BET surface area ranging from 40 m^2/g to 70 m^2/g.

4. The method according to claim 3, characterized in that the SiO_2 granulate obtained according to step b) has a BET surface area of at least 50 m^2/g.

5. The method according to any one of the preceding claims, characterized in that the spherical porous granulate grains have a grain size of less than 500 µm.

6. The method according to any one of the preceding claims, characterized in that the SiO_2 granulate is dried and purified under a chlorine-containing atmosphere.

7. The method according to any one of the preceding claims, characterized in that the SiO_2 granulate is dried and purified at a temperature of at least 1050°C.

8. The method according to any one of the preceding claims, characterized in that drying and purifying of the porous granulate is performed under an oxygen-containing atmosphere.

9. The method according to any one of the preceding claims, characterized in that the porous SiO_2 granules obtained according to step c) have an OH content of less than one wt ppm.

10. The method according to any one of the preceding claims, characterized in that the porous SiO_2 granules obtained according to step c) have a BET surface area of less than 20 m^2/g.

11. The method according to any one of the preceding claims, characterized in that the SiO_2 granules are thermally densified prior to step d).

12. The method according to any one of the preceding claims, characterized in that the quartz glass blank is annealed at a temperature of at least 1120°C for a retention period of at least 40 h.

13. The method according to any one of the preceding claims, characterized in that the SiO_2 granules according to step d) are molten in a mold.

14. The method according to any one of the preceding claims, characterized in that the SiO_2 blank according to step d) is three-dimensionally homogenized.

15. The method according to any one of the preceding claims, characterized in that a bulk body with a radially inhomogeneous refractive index distribution is formed from SiO_2 granules of different refractive index, and that the bulk body is sintered or molten to obtain the SiO_2 blank.

16. Use of an SiO_2 blank obtained according to a method as claimed in claims 1 to 15, as a core material for a fiber laser, as an optical filter or as a cladding tube for laser.